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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/829,483	04/10/2001	Yukiro Kashima	MAT-8121US	8067

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EXAMINER	
NGUYEN, LEE	
ART UNIT	**PAPER NUMBER**
2682	6

DATE MAILED: 04/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/829,483	Applicant(s) KASHIMA, YUKIRO	
	Examiner LEE NGUYEN	Art Unit 2682	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-8_ is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-8_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _5_.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The IDS filed 8/22/2002 has been considered and recorded in the file.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Trier et al. (US 5,834,981).

Regarding claim 3, Trier teaches a microwave oscillator for inducing parallel feedback from a drain to a gate of a field effect transistor (fig. 1), comprising:

(a) a first microstrip line 16 with a released end coupled to said gate terminal (G),

(b) a second microstrip line 14 with a released end coupled to said drain terminal (D),

(c) a dielectric resonator 12 electromagnetically coupled to said first microstrip line 16 and said second microstrip line 14, and

(d) a high impedance line 24 for bias supply to said gate terminal coupled at a position where a distance from the released end on said first microstrip line to a point closest to a center of said dielectric resonator is d1 + R, where R is the radius of the dielectric resonator (see fig. 1). Trier fails to teach that the distance d1 + R is the wavelength of the first microstrip line with an oscillation frequency with the length of Lamda/4. However, as suggest by Trier, the distance d1 + R can be modified to adjust the feedback loop of the transistor (col. 3, lines 30-31 and line 50). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the distance between the microstrip line and the center of the dielectric resonator with different values dependent upon the feedback loop requirement.

Regarding claim 1, the claim is interpreted and rejected for the same reason as set forth in claim 3. But the oscillator of Trier is implemented under a FET transistor, rather than a BJT transistor as claimed. However,

one having skilled in the art recognizes that the two transistors are interchangeable. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the BJT transistor with the design of the oscillator so that the BJT transistor can be used when the FET transistor is not available.

Regarding claim 4, Trier teaches a microwave oscillator for inducing parallel feedback from a drain to a gate of a field effect transistor (fig. 1), comprising:

(a) a first microstrip line 16 with a released end coupled to said gate terminal (G),

(b) a second microstrip line 14 with a released end coupled to said drain terminal (D),

(c) a dielectric resonator 12 electro-magnetically coupled to said first microstrip line 16 and said second microstrip line 14,

(d) a high impedance line 24 for bias supply to said gate terminal coupled at a position where a distance from the released end on said first microstrip line to a point closest to a center of said dielectric resonator is d1 + R, where R is the radius of the dielectric resonator (see fig. 1), and

(e) a high impedance line 26 bias supply to said drain terminal coupled at a position where the distance from the released end on said second microstrip line to the point closest to the center of said dielectric resonator is d2 + R, where R is the radius of the dielectric resonator (see fig. 1). Trier fails to teach that the distance d1 + R is the wavelength of the first microstrip line with an oscillation frequency with the length of Lamda/4 and that the distance d2 + R is the wavelength of the second microstrip line with an oscillation frequency with the length of 2Lamda/4. However, as suggest by Trier, the distances d1 + R and d2 + R can be modified to adjust the feedback loop of the transistor (col. 3, lines 30-31 and line 50). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the distance between the microstrip lines and the center of the dielectric resonator with different values dependent upon the feedback loop requirement.

Regarding claim 2, the claim is interpreted and rejected for the same reason as set forth in claim 4. But the oscillator of Trier is implemented under a FET transistor, rather than a BJT transistor as claimed. However, one having skilled in the art recognizes that the two transistors are interchangeable. It would have been obvious to one of ordinary skill in the

art at the time the invention was made to include the BJT transistor with the design of the oscillator so that the BJT transistor can be used when the FET transistor is not available.

5. Claims 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Trier et al. (US 5,834,981) in view of Guo et al. (US 5,752,180).

Regarding claim 5, the claim is interpreted and rejected for the same reason as set forth in claim 1. Trier also teaches that the oscillator can be used in a microwave receiver for receiving signals from a satellite (col. 1, lines 15-24). Trier fails to teach the conventional satellite receiver. In an analogous art, Guo teaches a low-noise converter incorporated in a microwave receiving antenna (fig. 1) comprising:

(a) inherently a waveguide for transmitting a satellite signal received in said receiving antenna (dish antenna 10, fig. 1),

(b) inherently a waveguide probe for converting the satellite signal in said waveguide into a microstrip line mode (dish antenna 10, fig. 1),

(c) a low-noise amplifier 11 of which input port is coupled to said waveguide probe,

(d) a mixer 16 for receiving an output signal of said low-noise amplifier, and

(e) a local oscillator 17 of which output port is coupled to said mixer.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the receiver of the Guo with the oscillator of Trier in order to stabilize the converter in a satellite receiver with the dielectric resonator oscillator.

Regarding claim 6, the claim is interpreted and rejected for the same reason as set forth in claim 2. Trier also teaches that the oscillator can be used in a microwave receiver for receiving signals from a satellite (col. 1, lines 15-24). Trier fails to teach the conventional satellite receiver. In an analogous art, Guo teaches a low-noise converter incorporated in a microwave receiving antenna (fig. 1) comprising:

(a) inherently a waveguide for transmitting a satellite signal received in said receiving antenna (dish antenna 10, fig. 1),

(b) inherently a waveguide probe for converting the satellite signal in said waveguide into a microstrip line mode (dish antenna 10, fig. 1),

(c) a low-noise amplifier 11 of which input port is coupled to said waveguide probe,

(d) a mixer 16 for receiving an output signal of said low-noise amplifier, and

(e) a local oscillator 17 of which output port is coupled to said mixer.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the receiver of the Guo with the oscillator of Trier in order to stabilize the converter in a satellite receiver with the dielectric resonator oscillator.

Regarding claim 7, the claim is interpreted and rejected for the same reason as set forth in claim 3. Trier also teaches that the oscillator can be used in a microwave receiver for receiving signals from a satellite (col. 1, lines 15-24). Trier fails to teach the conventional satellite receiver. In an analogous art, Guo teaches a low-noise converter incorporated in a microwave receiving antenna (fig. 1) comprising:

(a) inherently a waveguide for transmitting a satellite signal received in said receiving antenna (dish antenna 10, fig. 1),

(b) inherently a waveguide probe for converting the satellite signal in said waveguide into a microstrip line mode (dish antenna 10, fig. 1),

(c) a low-noise amplifier 11 of which input port is coupled to said waveguide probe,

(d) a mixer 16 for receiving an output signal of said low-noise amplifier, and

(e) a local oscillator 17 of which output port is coupled to said mixer.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the receiver of the Guo with the oscillator of Trier in order to stabilize the converter in a satellite receiver with the dielectric resonator oscillator.

Regarding claim 8, the claim is interpreted and rejected for the same reason as set forth in claim 4. Trier also teaches that the oscillator can be used in a microwave receiver for receiving signals from a satellite (col. 1, lines 15-24). Trier fails to teach the conventional satellite receiver. In an analogous art, Guo teaches a low-noise converter incorporated in a microwave receiving antenna (fig. 1) comprising:

(a) inherently a waveguide for transmitting a satellite signal received in said receiving antenna (dish antenna 10, fig. 1),

(b) inherently a waveguide probe for converting the satellite signal in said waveguide into a microstrip line mode (dish antenna 10, fig. 1),

(c) a low-noise amplifier 11 of which input port is coupled to said waveguide probe,

(d) a mixer 16 for receiving an output signal of said low-noise amplifier, and

(e) a local oscillator 17 of which output port is coupled to said mixer.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the receiver of the Guo with the oscillator of Trier in order to stabilize the converter in a satellite receiver with the dielectric resonator oscillator.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LEE NGUYEN whose telephone number is (703)-308-5249. The examiner can normally be reached on 8:00 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, VIVIAN CHIN can be reached on (703) 308-6739. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lee Nguyen 4/1/04

LEE NGUYEN
Primary Examiner
Art Unit 2682